



RADIATION THERAPY

Radiation therapy can be an effective treatment for certain tumors. A beam of energy is focused at the tumor region, and the exposed cancer cells are gradually eliminated with a series of radiation doses. Radiation is often used with surgery and chemotherapy.

RADIATION RECOMMENDATIONS

Radiation may be recommended in either a definitive setting or a palliative setting. With **definitive** therapy, our goal is to use radiation to rid the patient of cancer cells. The goal of **palliative** therapy is to treat pain and inflammation associated with the tumor, helping the patient become more comfortable. Common settings for radiation therapy include the following.

Surgery in conjunction with radiation: Due to the location and behavior of some tumors, removing the entire tumor with enough normal tissue to collect every cancer cell is not always possible. Surgery specimens are examined by a veterinary pathologist to measure the margins (normal tissue surrounding edge of the cancer). Definitive radiation therapy is used to treat microscopic cancer cells that may be left behind after surgery is performed. For some patients, definitive radiation is used to treat these extensions around the tumor prior to surgery. A radiation oncologist will consider the tumor size, location, type and other factors to decide when radiation will be best.

Radiation alone: Definitive radiation therapy is recommended for tumors that cannot be removed without great risk or complications for the patient. Some tumors that are commonly treated with radiation alone include tumors inside the nasal passage, perineum and brain, and some soft tissue sarcomas.

Palliative radiation: Palliative radiation is given to reduce pain and swelling for some tumors. The goal of palliative therapy is not to cure the patient's disease, but to improve the patient's quality of life. Many tumors will decrease in size with palliative radiation. The benefits often last two to four months, and pain control may start within days of the first radiation dose. Improvement does not occur for every patient, while in others the effects can last longer than four months. When symptoms of the cancer return, palliative therapy may be repeated for most patients that responded to the first course of therapy.

TREATMENT SCHEDULE

When radiation is given to control pain, treatments are given once every 3-4 weeks, or over five consecutive days (not including weekends). The radiation oncologist determines the number of treatments after considering the tumor type and location. Each treatment requires that your pet remain completely still for 10-20 minutes, so a short-acting general anesthetic is given each time. A small but real risk is associated with the anesthesia, and blood tests, x-rays (radiographs) and careful monitoring minimize this risk for your pet.

SIDE EFFECTS

As with any type of cancer therapy, certain side effects can occur with radiation therapy. Since radiation therapy is limited to one region of the body, side effects are also restricted to that area. If side effects occur, most begin after 10 to 12 treatments and heal approximately 2 to 5 weeks after therapy ends. If acute side effects occur, we keep our patients as comfortable as possible with pain medications and anti-inflammatories.

If radiation includes the mouth or nose, ulceration of the moist tissue of the mouth can occur (called mucositis). Oral rinses, soft foods, and topical numbing agents can reduce discomfort. Since radiation can temporarily decrease taste and smell, warmed “smelly” foods such as pureed meat baby foods and fishy cat foods can increase appetite. The skin covering a tumor treated with radiation therapy may become dry and flaky or moist and red, somewhat like severe sunburn. The radiation oncologist can recommend safe ointments and gels to prevent irritation. If one or both eyes are near the radiation field (common for nasal and brain tumors), tear production may decrease, and your pet may require eye drops during and after therapy.

Radiation therapy can also cause long-term effects. Hair loss, which is limited to the treatment area, may be permanent. Any hair that returns will typically be a different color. Other delayed effects from radiation can occur in bone, spinal cord, and brain tissue, as well as the lens and retina of the eye. These changes may not occur for months or even years following the radiation treatments. Because these effects can be permanent, a radiation oncologist must carefully supervise the dose and method of radiation for your pet.

PROGNOSIS

Radiation therapy can slow or prevent local recurrence of many types of cancer. Your pet will be scheduled for follow-up visits to re-evaluate the tumor and treatment site.